

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-010857**Date Inspected:** 18-Dec-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Li Yang**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Segment**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector, M. Manikandan was present during the time noted above for observations relative to the work being performed.

**OBG # TRIAL ASSEMBLY YARD (6AW-6BW)**

The Caltrans Quality Assurance (QA) Inspector observed ZPMC personnel attempting to align Longitudinal Diaphragms (LD) 6AW (LD16E) to 6BW (LD10A) by utilizing an approved Heat Straightening Report (HSR). ZPMC personnel rigged a hand operated cable/chain winch (come-along mechanical device) at the flange of LD10A and anchored it behind the web of the T-Rib at the Bottom Panel (BP) of 6AW to 6BW. This equipment and methods were not approved for use in ZPMC's HSR procedure. Additional information identifying this non-conformance issue is listed below.

-The LD's were located at 6AW to 6BW splice weld at W4.

-The 6AW LD is identified as: LD16E

-The 6BW LD is identified as: LD10A

-The HSR was identified as HSR1 (B)-7992 Rev. 0, Dated 11th Dec. 2009.

**OBG # TRIAL ASSEMBLY YARD (6AW-6BW)**

During a random visual inspection at Segments 6AW to 6BW for dimension verifications of T-Stiffeners, the Caltrans Quality Assurance (QA) Inspector observed ZPMC in-process of welding T-Stiffeners that connect the segment splice at 6AW to 6BW. The non-conforming items documented during the welding process were excessive root opening and width of a vertical single weld pass, utilizing the Flux Core Arc Welding (FCAW) process. Additional information identifying the non-conforming issues is listed below.

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- The vertical weld is identified as: BP032-001-025
- The welding process is identified as: FCAW
- The Weld is a Complete Joint Penetration (CJP) joint.
- The maximum vertical single pass width for FCAW is 25mm.
- The approved weld procedure specification (WPS) is identified as: WPS-B-T-2233-B-U2-F
- The 6AW to 6BW segment splice weld is identified as: OBW6B-003
- The vertical T-Stiffener weld is located at panel point 41 (PP41).

This QA Inspector randomly observed the following work in progress:

OBG # TRIAL ASSEMBLY YARD (6AW-6BW)

FCAW Process:

Welding of weld joint –044 and 045 located on PCMK BP086-001, Bottom panel T-Rib hold back area. Welder is identified as 066674. ZPMC CWI is identified as Li Yang. The welding variables recorded by QC appeared to comply with the WPS-B-T-2132.

FCAW Process:

Welding of weld joint –055 located on PCMK BP032-001, Bottom panel T-Rib hold back area. Welder is identified as 066674. ZPMC CWI is identified as Li Yang. The welding variables recorded by QC appeared to comply with the WPS-B-T-2132.

OBG # TRIAL ASSEMBLY YARD (6AW)

FCAW Process:

Welding of weld joint –004 located on PCMK OBW6F, Counterweight connection plate. Welder is identified as 220066. ZPMC CWI is identified as Li Yang. The welding variables recorded by QC appeared to comply with the WPS-B-T-2232-Tc-U5-F.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

### Summary of Conversations:

The incident reports is issued for the above mentioned discrepancy observed in Lift 6 W. And prior to issue it was informed to ZPMC QC and ABF QA.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact , who represents the Office of Structural Materials for your project.

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**Inspected By:** Manikandan,Murugan

Quality Assurance Inspector

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**Reviewed By:** Miller,Mark

QA Reviewer